VIDI

System Controller for OPUS DC Power Systems

Product description

VIDI is the advanced monitoring and control device for OPUS DC Power Systems. It delivers intelligence, an easy-to-use interface and a comprehensive set of features for DC Power System management.

VIDI architecture is based on PowerCAN bus communication and a modular design, which enables excellent system expandability, selectable additional features and flexibility in design.

The VIDI controller is the universal solution for all OPUS family DC Power Systems from 24 VDC up to 220 VDC, and for other modules in the family.

Product program

VIDI Controller is available in two models, VIDI and the VIDI+, which offers several extra features. Both models can be extended with optional modules.

Features

- Universal controller for all 24VDC-220VDC OPUS DC Power Systems
- Modular structure for optimal performance and design flexibility
- Sophisticated User Interface. User friendly local and remote operation
- Comprehensive features and alarms
- Numerous user configurable alarms and settings
- Full remote monitoring and control with lightweight WEB interface via RS 232, modem or TCP/IP
- Large event log file with real time clock time stamp

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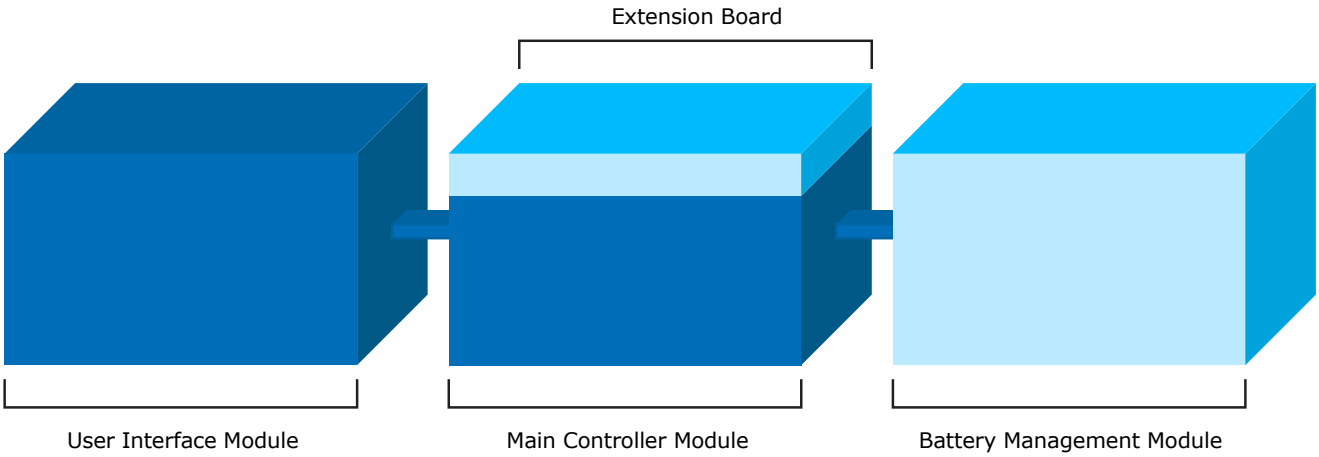
Quartetto Business Park, P.O. Box 260 (Linnoitustie 4), 02601 Espoo, Finland
Tel. +358 9 478 466, Fax +358 9 4784 6500, www.efore.com

VIDI Modular Structure

The VIDI controller comprises two main modules and two optional modules. The two main modules, User Interface Module and Main Controller Module, are always required. Extension Board is a factory installed option and Battery Management Module can be added separately where the available features are needed.



VIDI Controller Versions

The VIDI controller is available in two models, VIDI and VIDI+. Both can be supplemented with the optional modules.

Vidi Controller Features and Specifications

Input Electrical	VIDI	VIDI+
Power Supply 24-240 VDC Nominal from System DC Bus Voltage	√	√

Communication Ports	VIDI	VIDI+
10/100 Ethernet		√
RS-232, 9600-115200 Kbps		√

Monitoring and Control Local Monitoring and Control	VIDI	VIDI+
128 x 64 Graphical LCD with Backlight	√	√
Three-color System Status LED	√	√
Multilingual GUI	√	√
Parameter Help System	√	√
In normal operation, the display shows system charge mode, system output voltage, load current and number of active alarms	√	√
Monitoring and control of all functions with multi function dialling wheel	√	√
Monitoring and control locally with laptop via RS232 connector or Ethernet connector		√

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Monitoring and Control Remote Monitoring and Control	VIDI	VIDI+
Remote Monitoring and Control via Ethernet or RS-232 Port		√
Lightweight, Fully-Featured Web Interface		√
Text-Mode Interface over Telnet/SSH/RS-232		√
Online Parameter Help System		√
Alarms by E-Mail		√
Alarms via SNMP traps		√
Supported TCP/IP Protocols: HTTP, HTTPS, Telnet, SSH, SMTP, SNMPv2, NTP, DHCP		√

System Features Measurements	VIDI	VIDI+
System Output Voltage Measurement	√	√
Individual Rectifier AC input voltage measurement		√
Individual Rectifier DC output voltage measurement		√
Individual Rectifier output current measurement	√	√
Individual Rectifier temperature measurement	√	√
All Rectifiers total current measurement	√	√
Rectifiers Total Load Percentage	√	√
Total Load Current Measurement, if load shunt resistor Installed	√	√
Virtual Load Current Measurement, $I_{load} = I_{rect} - I_{batt}$	√	√
Functions	**VIDI**	**VIDI+**
PowerCAN-Bus Interface to MRC Rectifiers and Smart Peripheral Modules	√	√
Real Time Clock with Battery Backup		√
Energy Save Mode, with MRC Rectifiers	√	√
Plug-and-Play Support, Automatic Module Configuration	√	√
Inventory Management for Installed Modules	√	√
Site Information Text Input		√
Full System Firmware Update by User		√
System parameters upload and download in XML format		√
Rectifier Run Time Counter		√
Connections	**VIDI**	**VIDI+**
Battery or Load LVD's	1	1
Alarm/Temperature Inputs	4	4
Alarm Relay Outputs	4	4

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Battery Management Features included in main controller

Battery tests	VIDI	VIDI+
Manual battery test	√	√
Periodic battery test	√	√
Natural battery test (starts on mains fault)	√	√
Charge Modes	**VIDI**	**VIDI+**
Float charge	√	√
Manual boost charge	√	√
Periodic boost charge	√	√
Automatic boost charge	√	√
Temperature compensation in all charge modes	√	√

Functions	VIDI	VIDI+
Charge current limiting	√	√
Discharged Ah-counter	√	√
Time windows for battery tests		√

Alarms	VIDI	VIDI+
Mains Fault	√	√
Phase Fault	√	√
Rectifier Low/Over Voltage	√	√
System Low/Over Voltage	√	√
Rectifier Over Current	√	√
Rectifier Over Temperature	√	√
System Over Temperature, configurable setting	√	√
High Battery Temperature, configurable setting	√	√
Low Battery Temperature, configurable setting	√	√
Rectifier Fault	√	√
Module Communication Error/Module Fault	√	√
Load Fuse Fault	√	√
Battery LVD or Load LVD Contactor Failure	√	√
Battery Temperature Sensor Fault	√	√
Rectifiers No Redundancy Alarm/Rectifiers Over Load, configurable limits	√	√
Load Disconnect Warning, Configurable Margin	√	√
Load Disconnect	√	√
Battery Fuse Fault	√	√
Battery Discharge Test Fault	√	√
Boost Charge Fault	√	√
Battery Disconnect Warning, Configurable Margin	√	√

Log Data	VIDI	VIDI+
Alarms Log (max number of events)	32	512
System Power Log, 12 months		√
Event Logs (max number of events)		1024
Battery Temperature Log Graph		√
Battery Discharge Log Graph		√

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Optional Modules, Features and Specifications

Extension Board		
Additional Features	**VIDI**	**VIDI+**
Earth Fault Detection, Configurable Leak Resistance Limit	√	√
Additional Connections		
Alarm/Temperature Inputs	8	8
Alarm Relay Outputs	8	8
Additional Alarms	**VIDI**	**VIDI+**
Earth Fault	√	√

Battery Management Module		
Additional Features	**VIDI**	**VIDI+**
Battery Block/Cell Voltage Measurement (nr of spots)	12	12
Battery Symmetry Measurement	√	√
Additional Alarms	**VIDI**	**VIDI+**
Low Battery Block Voltage, Configurable setting	√	√
High Battery Block Voltage, Configurable setting	√	√
Battery Symmetry Failure	√	√
Additional Connections	**VIDI**	**VIDI+**
Alarm/Temperature Inputs	3	3

Scalability With Modules and Options	VIDI	VIDI+
Rectifiers, supported max amount	16	64
Additional Battery or Load LVD's, supported max amount	3	7
Extension Board, supported max amount	1	1
Battery Management Module, supported max amount	1	10

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Mechanical Structure	Main Controller Module	User Interface Module	Battery Management Module
Dimensions (HxWxD)	105 x 40 x 205 mm	80 x 80 x 20 mm	130 x 27 x 75 mm
Enclosure	IP 20 / IEC 529	IP 43 / IEC 529	IP 20 / IEC 529

Connectors	
Alarm/Temperature input Connector	Screw terminals
Internal PowerCAN-Bus Connector	User Interface Module RJ11 Other PowerCAN connectors RJ45
PowerCAN Termination Plug	RJ45 plug

Environmental	
Cooling	natural convection
Acoustic noise	< 40 dB (A)
Operating temperature (min/max)	-20 / +50 °C (power derated up to +70 °C)
Storage temperature (min/max)	-40 / +70°C
Humidity (max)	95% (relative humidity, non condensing)
Altitude (max)	2000 m above sea level

Applicable Standards	
EMC	ETSI, EN 300 386:2005
Environmental	operation: ETS 300 019-2-3 Cl T3.2 storage: ETS 300 019-2-1 Cl T1.2 transportation: ETS 300 019-2-2 Cl T2.3
Safety	IEC/EN 60950-1 Ed.2 (2005-12)
Approvals	CE-market, CB-certified
RoHS, WEEE	2002/95/EC
Quality	manufacturing and design under control of ISO 9001, ISO 14001

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